

WE CLAIM:

1. Nighttime imaging apparatus comprising  
achromatic video-image-display output structure, and  
optical path structure operatively interposed said output structure and a source of  
5 nighttime visual imagery, said path structure including a light intensifier and a non-  
lightbeam-dividing achromatic video output coupler structure operatively and  
communicatively interconnecting said intensifier and said output structure.

2. Nighttime imaging apparatus comprising  
10 a light intensifier arranged to receive light from a defined nighttime field of view,  
and to produce an intensified-light output stream derived from such received light, and  
an achromatic, optical-to-electronic imaging instrumentality coupled optically to  
said intensifier to receive therefrom said intensified-light output.

15 3. The apparatus of claim 2, wherein said imaging instrumentality is coupled  
to said intensifier in a manner whereby substantially all of said intensified-light output  
stream is supplied to the instrumentality.

4. The apparatus of claim 3, wherein said imaging instrumentality includes  
20 but a single charge-coupled-device.

5. The apparatus of claim 2, wherein said imaging instrumentality takes the  
form of structure within a black-and-white video camera.

6. The apparatus of claim 5, wherein said imaging instrumentality includes but a single charge-coupled-device in said camera.

5 7. Nighttime imaging apparatus comprising  
an optical lens structure for gathering light from a defined nighttime field of view,  
and for delivering such gathered light as a light output from the lens structure,  
a light intensifier optically coupled to said lens structure for receiving therefrom  
said light output, and for generating therefrom an intensified-light output, and  
10 an achromatic, optical-to-electronic imaging instrumentality coupled optically to  
said intensifier to receive therefrom said intensified-light output.

8. The apparatus of claim 7, wherein said imaging instrumentality is  
designed to generate an electronic-data output stream from intensified-light output which  
15 is received from said intensifier, and which further includes a visual display device  
operatively connected to said imaging instrumentality to produce an achromatic, black-  
and-white visual display based upon said electronic-data output stream.

9. The apparatus of claim 7, wherein said imaging instrumentality includes  
20 but a single charge-coupled-device.

10. The apparatus of claim 7, wherein said imaging instrumentality takes the  
form of structure within a black-and-white video camera.

11. The apparatus of claim 10, wherein said imaging instrumentality includes but a single charge-coupled-device structure in said camera.

12. A nighttime imaging method comprising  
5 gathering imagery-based available light which relates to a defined nighttime field of view,  
intensifying such gathered light, and  
producing, without lightbeam splitting, an achromatic light output derived from such intensified light.

10 13. A nighttime imaging method comprising  
gathering imagery-based available light which relates to a defined nighttime field of view,  
supplying such gathered light to a light intensifier,  
15 utilizing the light intensifier, producing thereby a related, intensified-light output derived from light supplied to the light intensifier, and  
furnishing such intensified-light output to an achromatic, optical-to-electronic imaging instrumentality for the purpose of creating thereby an electronic-data output stream which is interpretable to form an achromatic visual image.

20 14. The method of claim 13, wherein substantially all intensified-light output produced by the light intensifier is delivered to the mentioned imaging instrumentality.

15. The method of claim 13 which further comprises supplying the electronic-data output stream to a video display device.

16. A nighttime imaging method comprising  
5 utilizing a properly deployed light intensifier, creating a light-intensified image which is derived from a non-light-intensified nighttime field of view, and  
processing that light-intensified image with an optical-to-electronic imaging instrumentality to produce an electronic-data output stream containing solely achromatic optical image information.

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17. The method of claim 16 which further comprises converting the electronic-data output stream mentioned to a black-and-white, achromatic, displayable image.